## Tactile Sheet

Type: **ESP**

The part of switch is designed for thin and small electronic devices such as mobile phones.
Creates thin push switches when combined with fixed contacts on a PWB.

■ Features
● Resistant to environmental degradation:
   1) Diaphragms with a center hole ensure contact stability.
   2) Silver-plated diaphragms achieve high contact stability.
● Metal diaphragm creates a thin profile and lightweight.
● Sharp click-key operational feel.
● SMD available by using roll packaging (refer to the diagram below).
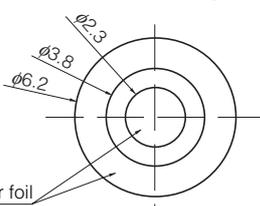

Roll Dimensions in mm (not to scale)

Packing form
φ300
φ150
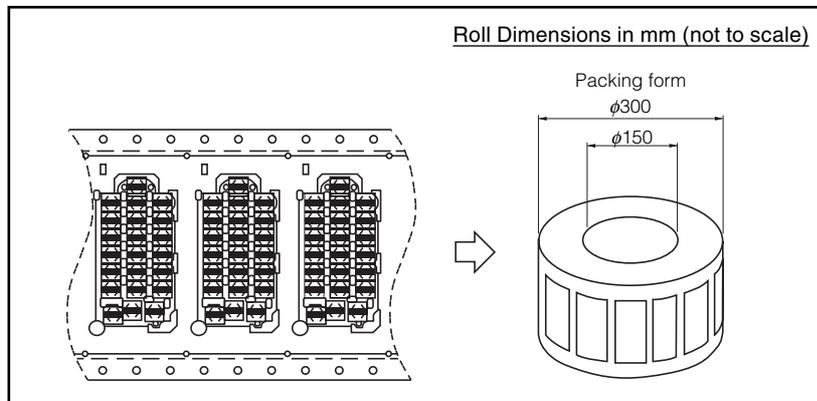
■ Specifications

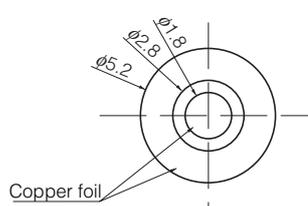|	Diaphragm	φ 5	φ 4
Mechanical	Operating Force	1.0 N, 1.6 N, 2.0 N	1.0 N, 1.6 N, 2.0 N
	Push Travel	0.25 mm±0.10 mm	0.15 mm±0.08 mm
	Height of Diaphragm: HD (Including an actuator)	0.35 mm±0.08 mm (0.58 mm±0.2 mm)	0.28 mm±0.08 mm (0.51 mm±0.2 mm)
Endurance	Operating Life	500000 cycles	500000 cycles
	Operating Temperature Range	−20 °C to +70 °C	−20 °C to +70 °C
	Storage Temperature Range	−40 °C to +85 °C	−40 °C to +85 °C

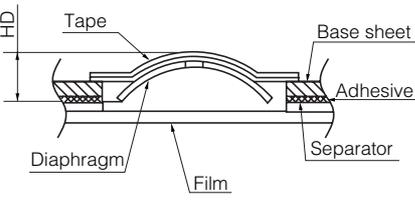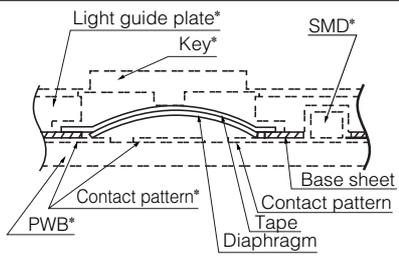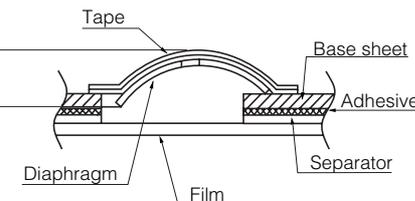Note: The above specifications are typical.

■ Recommended Contact Pattern

Surface treatment: Ni plating + Au plating

φ2.3
φ3.8
φ6.2

Copper foil

Surface treatment: Ni plating + Au plating

φ1.8
φ2.8
φ5.2

Copper foil

(a) φ5 Diaphragm   (b) φ4 Diaphragm

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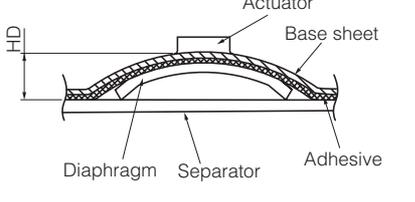| Appearance	Structure	Reference (usage)
No. 1 Basic Type	HD; Tape; Base sheet; Adhesive; Separator; Diaphragm; Film	Light guide plate*; Key*; SMD*; Contact pattern*; PWB*; Base sheet; Contact pattern; Tape; Diaphragm ✽ : Not equipped
No. 2 Flap Type Application Available to protect the contact circuit path on PWB	HD; Tape; Base sheet; Adhesive; Separator; Diaphragm; Film	Light guide plate*; Key*; SMD*; Contact pattern*; PWB*; Base sheet; Tape; Diaphragm ✽ : Not equipped
No. 3 Above-Adhesive Application Adhesive with key-pad	HD; Tape; Separator; Adhesive; Base sheet; Diaphragm; Film	Light guide plate*; Key*; Adhesive; SMD*; Contact pattern*; PWB*; Base sheet; Contact pattern*; Tape; Diaphragm ✽ : Not equipped
No. 4 Actuator Type Application Prevents displacement of the set key from degrading the operational feel.	HD; Actuator; Base sheet; Diaphragm; Separator; Adhesive	Light guide plate*; Key*; Base sheet; SMD*; Contact pattern*; PWB*; Adhesive; Contact pattern*; Diaphragm ✽ : Not equipped
No. 5 Light Guide Type Application Equipped with a light-guide film (0.2-mm thick) for uniform high-intensity illumination	HD; Light guide; Basesheet; Reflector; Adhesive; Diaphragm; Separetor; Adhesive	Rubber key*; SMD*; Adhesive; Light guide; Basesheet; Reflector; Contact pattern*; Adhesive; Contact pattern*; PCB*; Diaphragm ✽ : Not equipped
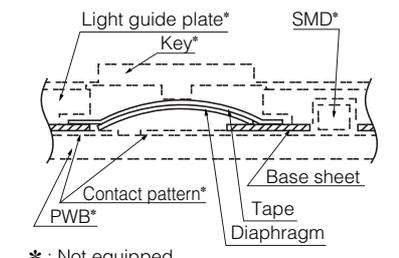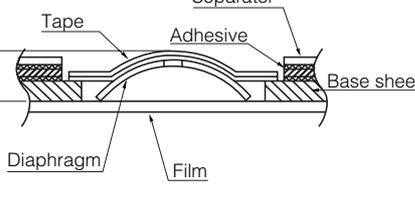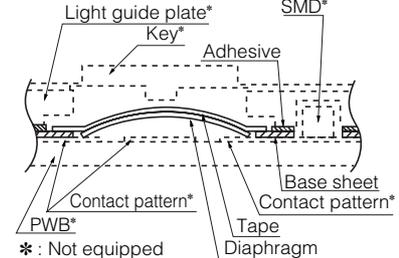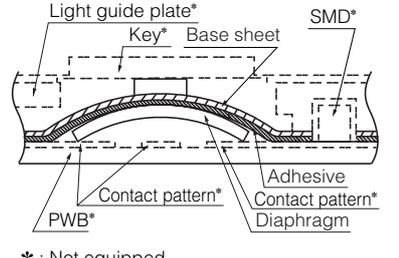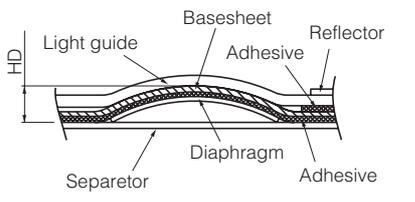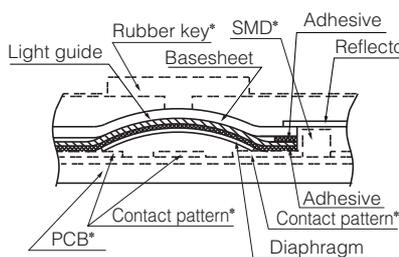
✽ Height of Diaphragm HD: Major specifications column reference